

SUPERFUND RESPONSE ACTION PRIORITY PANEL REVIEW FORM

Date Form Completed: 10.21.14

General Site Information

Region:	2	City:	Hewlett	State:	NY
CERCLIS EPA ID:	NYN000204407	CERCLIS Site Name:	Peninsula Boulevard Groundwater Contamination Superfund Site		
NPL Status: (P/F/D)	F	Year Listed to NPL:	2004		

Brief Site Description: *(Site Type, Current and Future Land Use, General Site Contaminant and Media Info, Site Area and Location information.)*

The Site is located in a very dense residential neighborhood with mixed commercial on the main streets and no natural areas remaining. Future land use is expected to be the same.

Media is groundwater.

Groundwater is contaminated with PCE and its degradation products, including TCE, 1,2 DCE and VC. The groundwater flows towards the northwest, in the direction of the New York American Water (NYAW) Plant 5 Well Field, a source of drinking water, which is approximately 1000 feet from the leading edge of the plume.

The contamination is in the Upper Glacial Aquifer (UGA) which overlies the Jameco Aquifer, which is the source of drinking water.

The work at the Site has been divided into two operable units. Operable Unit 1 addresses the cleanup of the contaminated groundwater. Operable Unit 2 is to delineate of the source of the contaminated groundwater, which is ongoing. The major components of the OU~~12~~ ROD signed in September 2011 included the extraction of contaminated groundwater via pumping and ex-situ treatment of the extracted groundwater prior to discharge; in-situ chemical treatment of targeted high concentration contaminant areas, as appropriate; and monitored natural attenuation for those areas where active remediation is not performed; The remedial design for the pump and treat is being conducted separately from the in-situ chemical treatment portion. This review form addresses the in-situ chemical treatment portion of the work.

General Project Information

Type of Action:	Remedial Action	Site Charging SSID:	2015 T 02D 303DD2 02TVRD01
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Operable Unit:	OU 1	CERCLIS Action RAT Code:	RA003
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Is this the final action for the site that will result in a site construction completion? ☐ Yes ☒ **No**

Will implementation of this action result in the Environmental Indicator for Human Exposure being brought under control? ☐ Yes ☒ **No**

Response Action Summary

Describe briefly site activities conducted in the past or currently underway:

An RI was conducted at the Site from 2005–2010. Environmental sampling of groundwater, surface water, soil and sediment was performed and a Data Evaluation Report (DER) presenting the results of the environmental sampling was prepared in October 2008. Supplemental RI work was conducted at the Site in 2010 to address data gaps including hydrogeological sampling and analyses, and to develop a baseline human health risk assessment (HHRA) and screening-level ecological risk assessment (SLERA). A DER Addendum was issued in December 2010 presenting the results of this sampling. A RI Report was released in June 2011.

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A ROD was issued in July 2011 selecting groundwater pump and treat with ISCO/ISCR as the remedy. An RD was initiated in November 2011. A Pre-design investigation and a treatability study were completed as part of the RD.

Three wells were installed in the Jameco (upgradient, site and downgradient) and sample analysis found no site-related contaminants.

Specifically identify the discrete activities and site areas to be considered by this panel evaluation:

The in-situ remedy has two parts: 1) Injection of Enhanced Bioremediation Material, specifically, LactOil™ (bioremediation emulsified vegetable oil) into four permanent 6-inch wells (two shallow and two deep) at two locations followed by post-injection monitoring.

2) Injection of in situ chemical reduction (-ISCR) material using Direct Push Technology (e.g., Geoprobe® 7822 Model) into injection points located along Westervelt Place near the intersection of Hewlett Parkway and Westervelt Place. The ISCR material is EHC®, which is composed of controlled-release carbon, zero valent iron (ZVI) particles and nutrients used for stimulating ISCR of otherwise persistent organic compounds in groundwater.

The majority of the current 10,000 µg/L PCE contour is defined as a target treatment area for in-situ remedy. This target treatment area is approximately 650 feet long, by 150 feet wide, by 40 feet in thickness (i.e., roughly 90,000 square feet area), and encompasses the areas of elevated PCE concentrations in the deep UGA.

Briefly describe additional work remaining at the site for construction completion after completion of discrete activities being ranked:

Completion of the OU 1 Ex-Situ pump and treat RD is expected by July 2015, and is currently at 50% completion. Identifying a location for the construction of the P&T system in the dense residential neighborhood continues to be a major issue.

Completion of the OU2 Source Delineation RI/FS is expected by March 2015.

Response Action Cost

Total Cost of Proposed Response Action:

\$2,146,809

Source of Proposed Response Action Cost Amount:

90% RD

Breakout of Total Action Cost Planned Annual Need by Fiscal Year:

(If the estimated cost of the response action exceeds \$10 million, please provide multiple funding scenarios for fiscal year needs; general planned annual need scenario, maximum funding scenario, and minimum funding scenario.)

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FY 2015	Construction Capital Costs (over 6 month period) Year 1 O&M	\$ 1,022,000 \$ 650,980 <hr/> \$1,672,980
FY 2016	Year 2 O&M	\$260,000
FY 2017	Year 3 O&M	\$260,000

Other information or assumptions associated with cost estimates?

Ex-Situ P&T Remedy Costs and Schedule

95% RD completed in 1st Qtr. FY 2016

Capital Cost \$6,758,000 (over 12 month period)

Funding in FY 2016		\$4,000,000
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Funding in FY 2017		\$2,758,000
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Funding in FY 2018	O&M Year 1	\$755,000
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Readiness Criteria

1. Date State Superfund Contract or State Cooperative Agreement will be signed (Month)?

FY 2015

2. If Non-Time Critical, is State cost sharing (provide details)?

3. If Remedial Action, when will Remedial Design be 95% complete?

Nov 2014 for first phase of OU. 2016 for next phase of OU

4. When will Region be able to obligate money to the site?

2nd Qtr FY 2015

5. Estimate when on-site construction activities will begin:

1st Qtr FY 2016

6. Has CERCLIS been updated to consistently reflect project cost/readiness information?

Ha Ha

Site/Project Name:

Peninsula Boulevard Groundwater Contamination Superfund Site

Criteria #1 - RISKS TO HUMAN POPULATION EXPOSED (Weight Factor = 5)

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Describe the exposure scenario(s) driving the risk and remedy. Include risk and exposure information on current/future use, on-site/off-site, media, exposure route, and receptors:

Exposure to groundwater (ingestion, dermal contact, and inhalation) for residents (adult & child) and commercial workers drove the risk.

These cancer risks and non-cancer health hazards indicate that there is significant potential risk to potentially exposed populations from direct exposure to groundwater or and groundwater vapors. For these receptors, exposure to groundwater results in either an excess lifetime cancer risk that exceeds EPA's target risk range of 10^{-4} to 10^{-6} or an HI above the acceptable level of 1, or both

Estimate the number of people reasonably anticipated to be exposed in the absence of any future EPA action for each medium for the following time frames:

MEDIUM	<2yrs	<10yrs	>10yrs
groundwater	600	600	600

Discuss the likelihood that the above exposures will occur:

All homes and businesses are connected to the public drinking-water supply and therefore are not directly exposed to the contaminated groundwater. However, the groundwater plume is a source of vapors that have the potential to migrate into homes located above the plume. EPA installed a radon-type system in one home where PCE & TCE levels were above R2 SVI screening levels. There are many homes located immediately adjacent to existing source areas where concentrations are greater than 10,000 ppb. However the residents in all of these homes have refused to grant EPA access in order to do indoor air sampling. Therefore there is currently an uncalculated high risk to individuals living in these homes and it is important for EPA to be able to initiate the in-situ remedy asap in order to decrease these levels of contaminants.

In addition, the public-water supply is located approximately to the north of the leading -edge of the plume. An RAO in the ROD is to reduce or eliminate the potential for migration of contaminants towards the NYAW well field.

Other Risk/Exposure Information?

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Criteria #2 – SITE/CONTAMINANT STABILITY (Weight Factor = 5)

Describe the means/likelihood that contamination could impact other areas/media given current containment:

The contaminated groundwater may cause soil vapor intrusion into residences above the plume

Are the contaminants contained in engineered structure(s) that currently prevents migration of contaminants? Is this structure sound and likely to maintain its integrity?

N/A

Are the contaminants in a physical form that limits the potential to migrate from the site? Is this physical condition reversible or permanent?

No, the contaminants are not in a physical form that limits the potential to migrate from the site

Are there institutional physical controls that currently prevent exposure to contamination? How reliable is it estimated to be?

All homes and business are connected to the public water supply. Soil vapor intrusion is a concern, as well as

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migration of plume toward AMWC well field.

Other information on site/contaminant stability?

None

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Criteria #3 – CONTAMINANT CHARACTERISTICS (Weight Factor = 3)

(Concentration, toxicity, and volume or area contaminated above health based levels)

List Principle Contaminants (Please provide average and high concentrations.):

(Provide upper end concentration (e.g. 95% upper confidence level for the mean, as is used in a risk assessment, or maximum value [assuming it is not a true outlier], along with a measure of how values are distributed {e.g. standard deviation} or a central tendency values [e.g., average].)

<u>Contaminant</u>	<u>*Media</u>	<u>**Concentrations</u>
PCE	groundwater	11,000 µg/l
TCE	groundwater	920 µg/l
1,2-DCE	groundwater	710 µg/l
VC	1,2-DCE	59 µg/l

*(*Media: AR – Air, SL – Soil, ST – Sediment, GW – Groundwater, SW – Surface Water)*

*(**Concentrations: Provide concentration measure used in the risk assessment and Record of Decision as the basis for the remedy.)*

Describe the characteristics of the contaminant with regards to its inherent toxicity and the significance of the concentrations and amount of the contaminant to site risk. *(Please include the clean up level of the contaminants discussed.)*

EPA's statistical analysis of groundwater-sampling data determined that the average exposure concentration of cis-1,2-DCE, PCE, TCE, and VC in the groundwater were, 11,000 µg/l, 920 µg/l, 710 µg/l, and 59 µg/l, respectively. All of these exposure concentrations are in excess of EPA's Safe Drinking Water Act MCLs of 70 µg/l, 5 µg/l, 5µg/l, and 2 µg/l, respectively; these concentrations also exceed the NYSDOH MCLs, which are 5 µg/l for cis-1,2-DCE, PCE, and TCE, and 2 µg/l for VC. These concentrations are associated with an excess lifetime cancer risk 2×10^{-1} for the future adult and child resident and 2×10^{-2} for the future commercial worker. The calculated non-carcinogenic HQs for the Site are: future adult resident HQ=300, future child resident HQ=600, and future commercial worker HQ=50

Describe any additional information on contaminant concentrations which could provide a better context for the distribution, amount, and/or extent of site contamination. *(e.g. frequency of detection/outlier concentrations, exposure point concentrations, maximum or average concentration values, etc.....)*

COC	High µg/l	Low µg/l	Detection Frequency
PCE	30,000	7.8	10/40
TCE	10,000	5.3	7/40
1,2 DCE	9,400	7.3	4/40
VC	59	59	1/40

Other information on contaminant characteristics?

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none

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Criteria #4 – THREAT TO SIGNIFICANT ENVIRONMENT (Weight Factor = 3)

(Endangered species or their critical habitats, sensitive environmental areas.)

Describe any observed or predicted adverse impacts on ecological receptors including their ecological significance, the likelihood of impacts occurring, and the estimated size of impacted area:

The SLERA performed during the RI indicated that concentrations of contaminants detected in surface water, interstitial water, sediment, and surface soil at the site are unlikely to pose any unacceptable risks to aquatic or terrestrial ecological receptors at the Site. The SLERA assumed that site receptors would not be directly exposed to groundwater.

Would natural recovery occur if no action was taken? ☐ Yes ☒ No
If yes, estimate how long this would take.

Other information on threat to significant environment?

None

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Criteria #5 – PROGRAMMATIC CONSIDERATIONS (Weight Factor = 4)

(Innovative technologies, state/community acceptance, environmental justice, redevelopment, construction completion, economic redevelopment.)

Describe the degree to which the community accepts the response action.

The community accepts the In-Situ portion of the remedy. The ISCR component of the remedy is expected to reduce the concentrations of VOCs in groundwater in a relatively short time period, whereas the pump and treat (P&T) component of the remedy is expected to operate for 30 years.

Construction of the ISCR component of the remedy will result in disruptions to traffic, potential school bus route changes, street closures, minor noise nuisance, and inconvenience to local residents. However, the footprint necessary to perform this work is small in comparison to other technologies, such as P&T. We will continue to perform outreach with the local community and work with the community to minimize the construction related impacts.

Describe the degree to which the State accepts the response action.

NY State concurs with the response action

Describe other programmatic considerations, e.g.; natural resource damage claim pending, Brownfields site, use of innovative technology, construction completion, economic redevelopment, environmental justice, etc...

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N/A